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DEPARTMENT OF PUBLIC HEALTH NURSING

A. M. CARR, R.N., DEPARTMENT EDITOR
National Organization for Public Health Nursing

MODERN FACTS AND PHASES OF TUBERCULOSIS

BY DAVID ALEXANDER STEWART, M.D.
Medical Superintendent, Manitoba Sanatorium, Ninette, Manitoba

(Continued from page 48, October *Journal*)

TUBERCULOSIS, a *Community Index*.—Perhaps you can now see the heart of the problem. Tuberculosis, the *infection*, it is true, is a matter of germs, but tuberculosis, the *disease*, is a reaction to wrong environment. It is not cured by medicine, but by a mode of life. It attacks the individual, but in its essence it is a community disease. Bad conditions, physical, domestic, social, industrial, financial, and even perhaps political, are among its causes. It is shot through and through the warp and woof of life.

Tuberculosis has been called an Index Disease. Where its ravages are great, general living conditions must be bad; and where its death rate is low, general living conditions are likely to be good. If a visitant from Mars wished a yard-stick to measure our civilization with, perhaps tuberculosis would be as good as any for the purpose.

An Index of Housing.—It would indicate where communities fail in housing conditions. Bad housing means over-crowding, impure air, storm windows that won't open (especially in the most important rooms of all the house, the bedrooms), sunlight shut out, over-heating, under-heating, air too dry or too damp, dust, dirt, close association with people of careless and dirty habits. The deaths from tuberculosis in one and two-roomed houses are twice as

great as in five and six-roomed houses. The city of Liverpool cleaned out a bad tenement district many years ago to stamp out typhus fever, and found that with improved housing, tuberculosis had been lessened as well. Our best houses perhaps are good, but in city and country there are, in Canada at any rate, houses little better, and little better lived in, than the gross hovels of the Saxons of a thousand years ago. Tuberculosis is a house disease, and we have not yet perfected, or at least have not widely applied, the art of living safely in houses.

Index of Other Diseases.—The index disease tuberculosis rises and falls to correspond with the other unnecessary disease conditions we allow to become epidemic and linger in the community. Nothing ever gets quite well. All diseases debilitate, and so all tend to prepare a soil for tuberculosis. After an attack of typhoid fever or malaria, the convalescent has twice the average chance of active tuberculosis in the next five years. Tuberculous meningitis has a way of following measles epidemics. Most of all, tuberculosis is ushered in by acute respiratory diseases, the common cold, the uncommon cold, grippe, "flu," whooping cough, measles, all highly infectious and all largely preventable. If the incidence of such diseases were cut in half, the incidence of

tuberculosis would be cut in half also.

Some Unhealthy Trades Raise the Index.—More than twice as many tin miners as coal miners die of tuberculosis; more than twice as many sandstone cutters as limestone cutters. A hatter, a silk weaver, a polisher or grinder, a file maker, a brass worker, a lace worker, a spinner, a cigarmaker, a glassworker or a coachman has only a fifty per cent chance of escaping death from tuberculosis.

Spendthrifts of Energy.—Perhaps the commonest cause of all, of breaking down into active tuberculosis, is the over-expenditure of energy. And this over-expenditure is largely a matter of "keeping up with the Joneses," of doing as others do, of following the customs of the day, of being in the fashion. In the main it is the doing of unnecessary things.

If one who has a strength income of one hundred will spend constantly one hundred and twenty-five, how can this end but in debt; and worse than debt, in mortgage; and worse than mortgage, in ruin. Tuberculosis is one of the commonest forms of health and strength bankruptcy. As income must balance expenditure, so rest must recreate after work and after play as well.

Of wrong community conditions of almost all sorts, tuberculosis is an unfailing index. Its death rate rises and falls in England with the price of bread. In war time in England the death rate among the civilians at home increased more than among the soldiers abroad. In the famine-stricken, plague-scourged and enemy-overrun countries it was appalling. In Hamburg those with income under one thousand marks were found to have a tuberculosis death rate eight

times as great as those with income over twenty-five thousand marks. Hazen proves that a pure water supply has been followed by a decrease in tuberculosis in many a community.

Manitoba communities in which tuberculosis is most rife are those in which living standards are lowest, ignorance general, houses small, sanitary conditions bad, over-crowding common, work hard, the average of wealth low; old settlements of ignorant people and unmodern type; foreign un-Canadian settlements, out of touch with modern movements; pioneer settlements in which life is hard. Such communities have a death rate several times the average for the province. Prosperous communities, on the other hand, where houses are good, circumstances easy, people intelligent and modern-minded, sanitary conditions fair, crops good, mortgages few,—some such settlements have a death rate from tuberculosis a fifth or a sixth of the average provincial rate.

Tuberculosis a Social Problem.—Of this you are perhaps now convinced that tuberculosis is less a medical problem than a social problem, less a disease of the individual than a disease of the community. Like all social ills it is a bundle of many associated evil conditions, complex, interwoven, inseparable. It has intimate relations with tonsils and adenoids, dirty hands, dirty habits, squalor, mouth breathing, bad teeth; with colds and infections. It is connected definitely with milk supply and street cleaning; with epidemic diseases and the water carriage of sewage; with house and shop conditions; with sanitation and the size of families; with work and play, especially play; with cares

and recreations. It has to do with hours of work and hours of sleep; with strikes and lockouts; with hard times and good times; wages and unemployment; rents and taxes; with education and intelligence; with fashions and institutions. It is bound up even with famine and plenty; with justice and oppression; with cookery and conduct; with marrying and giving in marriage; with motherhood and responsibility; with war and peace.

"*The Cure*."—Such is the disease, in the individual and in the community. What is the cure? "The cure" for tuberculosis in the individual might be discussed with profit for many days. I can give but a few principles, briefly.

"The cure" does *not* consist in travel, in chasing climate like a will-o'-the-wisp until life is lost. Far fields look fair. But every mile of travel is a disadvantage to a sick person, the confusion of every move is dangerous, and comforts, conveniences, appointments and service away from home, equal to those at home, are beyond the reach of all but the few. Not once in twenty times is there any advantage to gain at the end of the journey; and many times there is disadvantage and loss.

"The cure" is not something out of a bottle, or from a hypodermic syringe. A specific, easy, unailing remedy for tuberculosis may be found possibly when the pot of gold is found at the foot of the rainbow. "The cure" as we know it is, as Bushnell has said, not medicine, but a mode of life. It does not consist in stuffing the body to enormous proportions by excess of food. Enough fuel for the engine is better than too much. There are no

specific foods. The day of swallowing raw eggs is long past. And "the cure" is not even a matter chiefly of abundant fresh air. Good as that undoubtedly is for well and ill, and important as it is in the cure of tuberculosis, it has not the chief place among the essentials.

Teaching.—The first questions to ask are *not* where to go, or what to take, but what to learn and what to unlearn; what to do and what to avoid. The first need of the tuberculous patient is to be taught, and the first duty of doctor and of nurse is to teach. It is easier to give a patient pills than to teach him how to avoid constipation by regulating his habits, but the teaching is the better way. It is much easier to drug a cough than to teach how coughing may be controlled, but the teaching is the better way. A patient should no more be allowed to think that a cough brought on by over-much talking, or by a nervous, unnecessary clearing or rasping of his throat, is properly hushed by a sedative than a boy should be allowed to remain in the belief that twice two makes five.

"The cure" is the regulation of activity, of energy expenditure. It is the undoing of what has been done wrongly. It is the repair of extravagance and debt by retrenchment and economy; the reform of dissipation by self-denial and self-control.

Rest, the Essence of "The Cure."—The very centre and essence of "the cure" for tuberculosis is *REST*. A diseased joint is immobilized, inflamed vocal cords are hushed, and a bad lung is splinted by therapeutic collapse. General symptoms demand general rest, rest of the body in all its parts and rest of the mind as well. Even

machines need rest, and "our foster-nurse of Nature, is repose."

The most potent means of cure, and the most widely applicable, the best medicine we have, is rest. If cough is troublesome, fever rising, the pulse rapid, appetite lacking, if there is pain, weakness or loss of weight, for each and all the sovereign remedy is rest. The infirmary, where bed care is given, is the essential part of the sanatorium.

One tuberculous patient can scarcely lift his hand to his head without harm, or have a visitor for five minutes without danger, or even whisper without losing some chance of recovery. Another can do a day's work not only without harm, but with positive benefit. Just where along that gamut of activity any tuberculous person should be placed is the most difficult question to settle and also the question most of all needing to be settled right. The physician who has experience and judgment to prescribe the rest and exercise of his patients wisely can treat tuberculosis. If he cannot prescribe rest and exercise wisely he can only mistreat tuberculosis.

Special Treatment.—Among special methods of treatment I have already referred to therapeutic lung collapse or artificial pneumothorax which, when applicable, perhaps doubles the chance of recovery. So striking are its results, that when, on account of adhesions, collapse by the usual method is impossible, physicians are willing to advise, and patients to undergo, very extensive thoracoplastic operations involving removal of parts of almost all the ribs on one side, in order to secure the benefits of lung collapse.

We are beginning to realize that tuberculous ulceration of the intestines is

a very common complication of pulmonary disease, to presume that it has an early and curable stage, and to endeavor to make a diagnosis and institute treatment at that stage. The opaque meal is an important means of diagnosis in these cases and the ultra-violet ray a promising mode of treatment.

The Sanatorium.—Fifteen years ago a great part of the anti-tuberculosis campaign was concerned with the building of sanatoria. The sanatorium was to be the centre of the line, the forefront of the battle, the spearhead thrust into the heart of the foe. Because the sanatorium has not single-handed waged the whole fight and won the victory, there have been some heartburnings, but it has been in no way a failure. It has cared for the sick and cured them when cure was possible. Most forms and phases of tuberculosis are curable if the right treatment is applied early; most are very destructive, or fatal, if wrong principles are followed or if treatment is sought too late. Unfortunately treatment is seldom sought early. Most often the fire brigade is sent for about the time the roof is falling in.

The sanatorium as a centre for diagnosis is more and more appealed to, but, most important of all, it has taught its patients and through them their friends and the communities to which they belong. In it have been developed and improved modes of diagnosis and treatment, and it has trained physicians and nurses for the campaign. The diagnosis of disease is a good work, but if the diagnosis of disease can be taught, that is a work even better. The care of the patient is of value to the

community, but teaching the care of patients is of even greater value.

A More Perfect Civilization.—And of tuberculosis, the community disease, what is the cure? It has been described as a product of our civilization. True, its ravages began when wandering tribes began to build houses and wall them around into cities. Like murder and theft, it is a product, not of the best, but of the worst in our civilization, of primitive, imperfect, incomplete civilization. Like murder and theft, tuberculosis can be stamped out only by newer, truer, more perfect civilization.

Because tuberculosis is interwoven with almost all parts and phases of community life, it follows that any betterment in any part of man's complex environment, any reforms in any phase of his life and work, will tend to the staying of the plague. Its death rate has been cut in two in the last fifty years in all progressive countries, not through special anti-tuberculosis effort, but as a net result of many industrial and social reforms; through a general amelioration of social conditions.

Toward the final conquest of tuberculosis more can be accomplished by a good housing movement, by teaching the use of the tooth-brush to children, by ringing a curfew bell to get them to bed, by setting a fashion, or at least giving an example, of plain, moderate, placid, wholesome, unfevered living, than by many lurid lectures about the badness of the bacillus.

Ignorance, the Enemy.—Ignorance is the enemy of all betterment, and enlightenment the hope of all reform. People cannot do right until they know the right. "Ye shall know the truth and the truth shall make you free." Be-

cause the tuberculosis problem is complex, there must be much teaching and along many lines. People in general do not know or do not realize that weakness, cough, and loss of weight are very abnormal conditions whose significance they cannot properly estimate, do not know or do not realize, that these need early diagnosis and exactly right treatment. Because they do not know or do not realize such things as these, thousands of lives are lost.

Knowledge is of little use until it is spread abroad. It bears no fruit until it is sown widely in the minds of men. There is knowledge enough within universities and colleges, and agricultural councils, and among the health workers of this country to banish noxious weeds, bovine tuberculosis, human tuberculosis and many other scourges forever from our continent. Why then do they still linger? Why are they not gone?

The last noxious weed will not be banished until the last, most remote and most backward farmer has been sought out, taught, convinced, and indeed inspired to the patient toil and good farming which alone can banish weeds. And tuberculosis will not be banished until the whole country, every state, every province, every section, every family, indeed every person, is taught and convinced and indeed inspired in all elements of the better, cleaner, saner, higher civilization which alone can cast out this disease. Order in the beginning came out of chaos, when it was said, "Let there be light."

To carry the torch of knowledge about health, for the enlightenment of the people, into all dark corners of the earth, is pre-eminently the work of nurses.